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10/593,471

09/19/2006

Joachim Pfeiffer

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EXAMINER

LUU, THANH X

ART UNIT

PAPER NUMBER

2878

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/593,471 | Applicant(s) PFEIFFER, JOACHIM | |
| | Examiner Thanh X. Luu | Art Unit 2878 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/07/07; 09/19/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Regarding claim 1, it is unclear how the at least two sensor elements are related to the image detector. Also, "the principles of confocal microscopy", "the optical path", "the beam path", "the aperture array", "the image plane", "the accumulation of charges", "the observed beam path", "the exposure period" and "the distribution of the levels of intensity" lack proper antecedent basis. It is unclear what scope "principles of confocal microscopy" encompasses. Further, the preamble states a "scanning system"; it is unclear where scanning takes place. It is also unclear how an image plane has an "optical distance."

4. Regarding claims 2 and 13, "said means" lacks proper antecedent basis. It is unclear which means is being referred to.

5. Regarding claim 5, "said sensors" lacks proper antecedent basis.

6. Regarding claim 8, "said deflecting means" lacks proper antecedent basis.

7. Regarding claim 15, it is unclear how an aperture array has a "pulse duty ratio."

8. Regarding claim 20, "the scanning period" lacks proper antecedent basis.

9. Regarding claim 21, it is unclear what "increased adjustment" refers to.

10. Regarding claim 22, "the average scanning distance" and "the desired measuring accuracy" lacks proper antecedent basis.

11. Regarding claim 23, the claim is similarly indefinite as claim 1 (see above). Further,

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"with has at least" is improper.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 3-8, 22 and 23, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaami et al. (U.S. Patent 6,300,618).

14. Regarding claims 1, 3-8, 22 and 23, Tanaami et al. disclose (see Figs.) A device and method, comprising a light source (21), imaging optics (14) for focusing the light emitted from the light source onto an object (11) to be scanned, an image detector (30) to detect the light of a point on the object that is backscattered from the object and that passes back through the same imaging optics to at least two radiation-sensitive sensor elements, wherein at least two sensor elements are assigned to an object point irradiated via the imaging optics, means for changing the length (15) of the optical path are provided in the beam path between an aperture array (23) and the object, which optical distance of the image plane can be varied in a specified manner, and means (25, 26) are provided which influence the accumulation of charges in the at least two sensor elements from the intensity of light of the observed beam path during an exposure period in such a manner that a correlation with the optical distance of the image plane from the imaging optics is created so that an altitude coordinate of the object can be reconstructed (see Fig. 2) from the distribution of the levels of intensity acquired from the at least two sensor elements during the exposure period. Tanaami et al. further disclose a deflecting means (25).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

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obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaami et al.

17. Regarding claims 16-19, Tanaami et al. disclose the claimed invention as set forth above. Tanaami et al. do not disclose the type of image detector. However, line sensors, flat panel detectors, CCDs and CMOS image sensors are notoriously well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any of the claimed image sensors in the apparatus of Tanaami et al. for any number of desired advantages (cost, size, sensitivity, etc., as known).

18. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaami et al. in view of Fukuda et al. (U.S. Patent 6,697,163).

19. Regarding claims 20 and 21, Tanaami et al. disclose the claimed invention as set forth above. Tanaami et al. do not disclose two separate detectors as claimed. Fukuda et al. teach (see Fig. 12) detecting with two separate detectors as claimed and having different sensitivities (1/100; 99/100). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any of the claimed detector configuration in the apparatus of Tanaami et al. in view of Fukuda et al. to obtain better dynamic range as taught.

Allowable Subject Matter

20. Claims 2 and 9-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is 571-272-2441. The examiner can normally be reached on M-F 6:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thanh X Luu/
Primary Examiner, Art Unit 2878